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(21)Application number : 09-155205 (71)Applicant : KAWASAKI STEEL CORP

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(54) FERRITE MATERIAL

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a ferrite material which can be effectively reduced in loss, by simultaneously mixing NiO and CoO in the fundamental component of an Mn-Zn ferrite containing Fe₂O₃ in excess of a specific amount.

SOLUTION: A ferrite material contains a basic component composed of about 52 to 68 mol.% Fe₂O₃, about 0.5 to 10 mol.% NiO, about 15 mol.% or less ZnO, about 0.05 to 0.5 mol.% CoO, and the remaining mol.% MnO. It is possible to mix 0.010-0.100 wt.% SiO₂ and 0.020-0.300 wt.% CaO in the basic component, and, in addition, to mix one or two kinds of oxides selected from among Nb₂O₅, Ta₂O₅, V₂O₅, ZrO₂, HfO₂, TiO₂, and SnO₂ in the basic component within specific ranges. However, the total content of these added components must be adjusted to ≤1 wt.%. When the total content of the added components is adjusted to ≤1 wt.%, the value of the loss of the ferrite material at 1 MHz, 50 mT, and 80° C becomes ≤300 kW/m³. Therefore, a ferrite material which

is less in loss in a high-frequency domain can be obtained.

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